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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,788	02/09/2004	Chow-Shing Shin	386998047US	9048

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EXAMINER

LEE, PATRICK J

ART UNIT	PAPER NUMBER
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2878

DATE MAILED: 10/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/774,788

Applicant(s)

SHIN ET AL.

Examiner

Patrick J. Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 August 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-18 is/are allowed.
- 6) ☒ Claim(s) 19-22 and 27 is/are rejected.
- 7) ☒ Claim(s) 23-26 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 August 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. This action is in response to amendment filed August 30th, 2005.

Drawings

2. The drawings were received on 8/30/2005. These drawings are acceptable.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 19 & 21-22 are rejected under 35 U.S.C. 102(e) as being anticipated by US 6,876,786 B2 to Chliaguine et al.

With respect to claim 19, Chliaguine et al discloses a fiber grating sensor system comprising: sensitive elements (20) as long period fiber grating for sensing physical quantities (see column 5, lines 61-66); light source (31) as a narrow band light source (see column 7, lines 9-13; column 13, lines 1-2); and photodetector (32) as a light energy-measuring assembly to measure light wave energy.

With respect to claim 21, Chliaguine et al discloses photodetector (32) as converting modulated transmitted light energy into a voltage signal proportional to the physical quantities measured.

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With respect to claim 22, Chliaguine et al disclose light source (31) to be a laser diode of a fixed narrow band source (see column 7, lines 9-13).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 20 & 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,876,786 B2 to Chliaguine et al in view of "A torsion sensor made of a corrugated long period fibre grating" to Wang et al.

Chliaguine et al disclose the device as described in the discussion of claims 19 & 21-22.

With respect to claim 20, Chliaguine et al does not explicitly disclose the use of a corrugated force long period fiber grating, but such is disclosed by Wang et al. Such would have been obvious to one of ordinary skill in the art because such would allow for increased ability of the device to be resistant to EM radiation and operate in an electrically passive manner.

With respect to claim 27, the modified Chliaguine et al does not explicitly disclose the channeling of a portion of light energy by coupler (40) so that the measured result will not be affected by variation, but such would have been obvious to one of ordinary skill in the art because such would improve the detective capabilities of the device.

Allowable Subject Matter

7. Claims 1-18 are allowable over the prior art.
8. Claims 23-26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
9. The following is a statement of reasons for the indication of allowable subject matter:

With respect to claims 1 & 10, US 6,876,786 B2 to Chliaguine et al and US 5,945,666 to Kersey et al disclose the use of long period gratings, but do not disclose the use of a coupler such that light reflected from fiber Bragg gratings are input into long period fiber gratings. US 6,822,218 B2 to Helmig et al discloses the grating (9) disposed after coupler (2), but does not disclose nor suggest the use of LPG for grating (9). As a result, independent claims 1 & 10 and dependent claims 2-9 & 11-18 are allowable.

With respect to claim 23, the teachings of Chliaguine et al do not disclose nor suggest the use of a WDM and an EDF. As a result, claim 23 and dependent claims 24-26 are objected.

Response to Arguments

10. Applicant's arguments with respect to claims 20-27 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion


11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick J. Lee whose telephone number is (571) 272-2440. The examiner can normally be reached on Monday through Friday, 8:00 am to 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David P. Porta can be reached on (571) 272-2444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patrick J. Lee
Examiner
Art Unit 2878

PJL
September 19th, 2005


Stephane B. Allen
Primary Examiner